

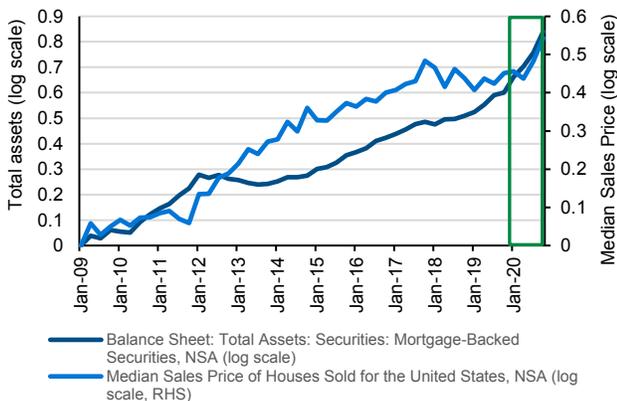
July 2021

Multi-asset Market Update

Equity market

In a recent US rates strategy meeting, our estimation was that we are not quite through the expected noisiness of this year's economic data releases. So, while the 4th of July advertising campaign by the White House promoting lower year-over-year costs for a barbecue may have been ham-fisted, we can be sympathetic to the effort to keep inflation expectations and the increasing inflation narrative restrained.¹ Considering the recently released June CPI data, that restraint may be harder to come by, though. Additionally, New York Fed governor and FOMC Vice Chair, John Williams recently commented that he does not believe the economy has made enough progress to begin tapering MBS and/or Treasury purchases.² Williams also indicated that Fed actions have supported housing prices without necessarily creating unwarranted or unwelcome inflation. Again, this message may be failing to resonate.³

Figure 1: Fed housing support

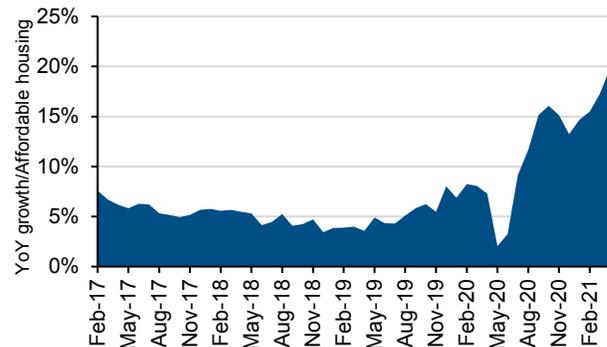


Source: Bloomberg, data as of July 13, 2021.

Williams' comments were more attuned to the effects of MBS and Treasury purchases on the level of interest rates and resultant housing affordability. But the US National Association of Realtors releases a housing affordability index that incorporates median income and mortgage rates, and it presents an even more severe situation. (Note the official Fed data is only available through 3Q20, so does

not yet include the more robust housing market period through the spring and summer this year.)

Figure 2: US housing affordability



Source: US National Association of Realtors, data as of July 13, 2021.

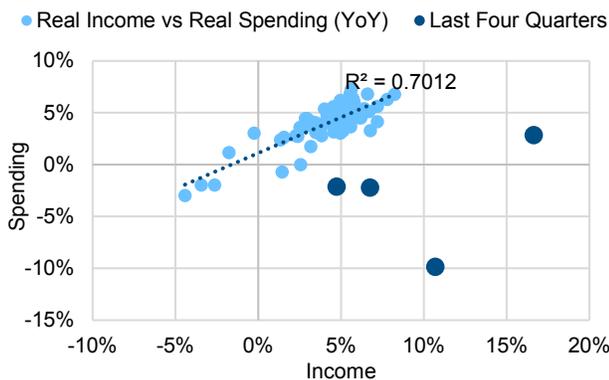
Before you become wary of another missive about inflation and tapering, we'll quickly summarize where we stand in that debate: it doesn't matter.

Our US economist noted that the June core CPI increase wiped out the undershoot of the last few years. Meaning, if the Fed had achieved its inflation target consistently and without the effects of the pandemic, price levels would be where they stand now. He also noted that the consensus argument rationalizing further inflation is that consumers' savings and strong balance sheets will cushion the price increases. But we'll also quote another colleague who said, "Why do they bother measuring inflation without food or energy? I kind of need both of those things." This is funny, obvious and right. Because it doesn't matter which inflation measure you use—core, trimmed mean or the abject silliness of median—if goods cost more relative to wages, it will impede the economy.

Said differently, you can tell me the we don't have inflation or that if we do that its transitory, but if the prices of goods increase relative to wages then the effects will just manifest in lower growth. For example, note the strong historical

relationship between real personal income and real spending. *Figure 3* shows the annual change in quarterly data since 2001, and typically when people earn more, they spend more. The most recent data, however, are all outliers. Incomes have increased meaningfully but spending has not kept up. If consumers used savings to navigate price increases, I would expect the typical historical relationship to persist. Instead, either the narratives or measurements of inflation do not jibe with reality, or perhaps consumer behavior and attitudes with respect to maintaining a safety net or potentially persistent inflation have changed.

Figure 3: Real income vs. Real spending



Source: Bloomberg, data as of July 13, 2021.

To reiterate our first point, though, we do not believe there is sufficient, consistent data to adequately understand the post-pandemic economic environment. So, outliers may just be outliers. However, any relative balance between unwelcome inflation or slowing growth would also be consistent with our expectation that we will move from early- to mid- to late-cycle quickly and would likely be incompatible with risk markets' current valuations.

Equity volatility

As the summer rolls on, the snapshot of equity volatility markets is nearly identical today to what it was last month. Term structure remains very steep, driven by downward pressure on the very shortest-dated maturities because of recent calm. One-month at-the-money implied volatility remains at 12%, three-month at 15%, and the term structure smoothly extends out to three years at around 19%.³

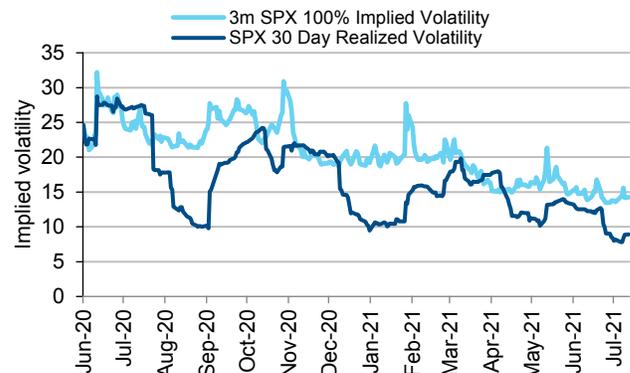
Beyond pricing at-the-money options, other markers of equity volatility remain elevated. Short-dated skew remains very steep, primarily driven by sticky downside put levels against the softening at-the-money region mentioned above. Therefore, considering richness in such broader convexity measures, VIX futures are historically elevated, albeit at the lowest levels thus far since the pandemic began.

The team has had ongoing debates about the potential future paths for overall equity volatility risk premia, which, in

our opinion, remain the most stubbornly elevated across the multi-asset derivatives complex. Should risk markets fail to deliver greater than 5% equity market drawdowns in the short term and should the *(Figure 4)* carry-friendly spread between implied and realized volatility remain positive, it would be natural to expect both skew and longer-dated volatility to finally begin fading. Furthermore, we believe that the relatively rich pricing of downside protection inhibits scenarios like the 2018 “volmageddon” where the options market was a leading contributor to underlying equity market stress.

Client activity remains balanced and focused on specific plan objectives and positioning, whether extending long equity overlays, initiating outright hedges, or adding upside call spread structures.

Figure 4: S&P 500 implied volatility



Source: Bloomberg, data as of July 13, 2021.

Rates market

Rates moved lower and the curve flattened further over the past month, which saw an unexpectedly high volatility in the long end. The front end sold off and the curve bear steepened during the June FOMC meeting, as the dot plot was surprisingly hawkish, showing a median of 2 rate hikes by the end of 2023 compared to 0 forecasted in March. A total of six dots were revised upwards.³

Figure 5: US rate environment

Index (%)	7/13/2021	One month ago	Three months ago	One year ago
Fed Funds Rate	0.25	0.25	0.25	0.25
2-year	0.25	0.16	0.16	0.16
5-year	0.85	0.78	0.84	0.29
10-year	1.42	1.49	1.61	0.62
30-year	2.05	2.18	2.29	1.31

Source: Bloomberg, data as of July 13, 2021.

In the two days following the meeting, the 30-year treasury rate rallied 20 basis points to 2.01, while the 5-year rate was basically unchanged. As a result, the 5s30s curve flattened to 113, the lowest level since September 2020.³

There were a few theories as to the driving force behind this somewhat unexpected rally. The Fed may see that 2021 inflation overshoot is sufficient to reach their inflation averaging goal, meaning the hurdle for raising rates in the future will be lower, thus less long-term inflation and lower long-term rates. Alternatively, some participants may have read the dots as the Fed being pressured by the markets to hike sooner than planned, ultimately causing problems down the road. There were most likely some technical factors at work as well, from outright short positions being caught off guard to net short gamma positions in longer tails. This would help exacerbate large rate moves in either direction.

Sentiment reversed somewhat the following week as hawkish comments by the Fed's Bullard and Kaplan warned of high inflation risks and their openness to discuss tapering "sooner rather than later." These moves were reversed once again the following week. Month end related buying from real money accounts pushed the long end down to 2.09 to close out June while the 5-year rate ended the month at 0.89.³

Payrolls released on an early close Friday surprised to the upside with +850k new jobs created compared to the consensus estimate of +720k with upward revisions to the prior month. Bonds initially sold off on this data release, but that move was quickly faded and the 30-year ended the day at 2.04. The buying may have been fueled by worries of being short the market going into a long weekend while concerning data surrounding the COVID-19 delta variant was beginning to emerge globally.³

Figure 6: Treasury rates



Source: Bloomberg, data as of July 13, 2021.

Figure 7: Current implied volatility levels and change over one-month

P/Tail	2y	Change	5y	Change	7y	Change	10y	Change	15y	Change	20y	Change	30y	Change
1M	27.8	7.5	61.1	2.5	68.1	3.7	73.0	5.3	75.7	8.0	76.3	8.6	78.5	10.8
3M	35.2	5.9	65.0	0.3	70.2	-0.1	73.2	-0.3	74.1	1.0	74.9	2.1	75.9	3.4
6M	43.5	8.4	66.4	0.5	69.4	-0.8	71.4	-1.7	71.7	-0.8	71.8	-0.4	72.0	0.2
1Y	54.6	10.2	68.1	0.5	69.2	-1.3	70.2	-2.8	69.8	-1.9	69.6	-1.4	69.3	-0.8
2Y	68.4	2.2	69.9	-3.2	69.6	-3.9	69.4	-4.5	68.2	-3.8	67.5	-3.1	66.5	-2.8
3Y	71.5	-3.7	69.8	-5.0	69.3	-5.0	68.6	-5.0	67.1	-4.6	65.8	-4.2	64.5	-3.9
4Y	71.1	-5.8	69.3	-6.0	68.7	-5.5	68.0	-5.0	66.2	-4.6	64.7	-4.2	63.3	-3.8
5Y	70.2	-6.6	68.5	-6.3	68.0	-5.6	67.3	-4.9	65.4	-4.3	63.8	-3.9	62.2	-3.5
10Y	66.1	-4.2	64.4	-4.5	63.4	-3.8	62.4	-2.8	59.8	-2.9	57.9	-2.4	56.0	-2.3

Source: Citibank, data as of July 13, 2021.

The preceding holiday shortened week saw some extreme volatility as long end rates had some outsized intraday rallies. There was no clear fundamental or data release that seemed to drive this move other than the usual suspects of the past few weeks - concerning Israeli COVID-19 delta data, as well as stop outs of reflation and short gamma trades.

After spending most of the week rallying, rates turned around last Friday and the curve steepened back out to 120 in 5s30s and the long bond closed out the week at 1.99. This week saw another blockbuster CPI reading - +0.9% month-over-month in headline and core (5.4% year-over-year overall, highest in over 10 years and +4.5% core, the highest level in nearly 40 years). The 5-year rate sold off on the release, flattening the curve 5bps. But later that same afternoon, the 30-year treasury reopening tailed 2.4 basis points on weak end user demand, sparking a selloff in the long end, leaving the 5s30s curve essentially unchanged on the day.³

Rates volatility

Over the past month, the upper left remained well bid and very short dated gamma in 30-year tails is up, as the long end dropped back below 2% and experienced high realized volatility. The rest of the surface is down over the past month as sellers emerged in intermediate and longer dated expiries. The violent curve flattening in the wake of the June FOMC meeting caused volatility across the entire surface to move higher, particularly in the two days after the meeting that saw a 4 standard deviation intraday move in the 30 year rate. Anything in the upper left from 2y2y and in was up 10-13 annuals while gamma on longer tails was up 1-8abpv with shorter expiries outperforming. Implied volatility on 3m10y reached 4.8 basis points/day.³

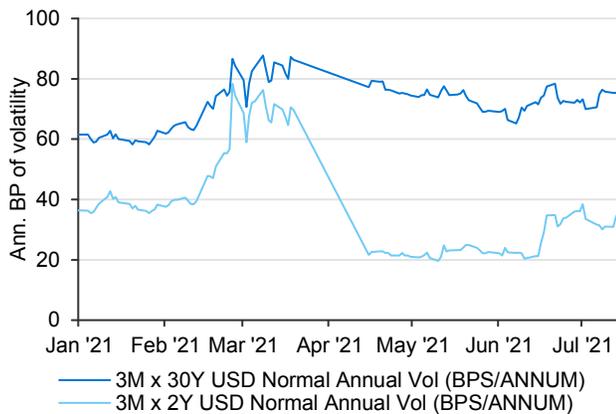
The following week saw a reversal of much of those moves as Gamma on 10-year and 30-year tails traded back to where it was before the meeting. There was a big focus on selling intermediate expiries in both short and long tails, which helped drag down vega in sympathy as 10y10y was hit down 2 annuals.³

Weakening of payer skew also started to emerge after the FOMC meeting. Any expressions of bearish trades were

done via spreads or ladders – structures implying the rates will continue to remain range bound. Curve volatility, particularly in the 5s30s spread was well bid after the meeting as that spread was moving 6-10 basis points per day. But as curve steepness became less volatile, systematic sellers also began to enter the market. The only portion of the volatility surface that remained supported going into month end was the upper left, which continued to move directionally with the forward rates.

Volatilities across the surface were hit down immediately after the June payroll data release. It was particularly noticeable in the upper left as 6m2y traded down 5.5 annuals on the day and 3m10y traded 3 lower and to an implied volatility of just under 4.3 basis points/day. This was a combination of even risk passing, low realized move from the half day liquidity, and concerns over the uprising of the delta variant globally. All of which could cap how much higher rates could move.

Figure 8: Annual volatility



Source: Citibank, data as of July 13, 2021.

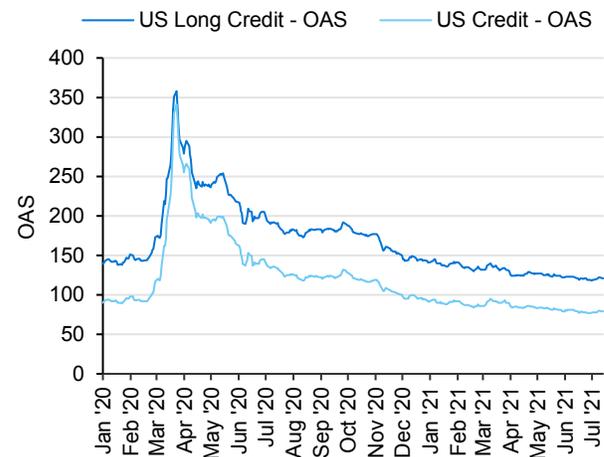
Last week we saw gamma on the right-hand side outperforming the left, which was no surprise given the volatility in the long end of the curve. The 30-year rate dropped back below 2% and 1m trailing realized volatility hit its highest levels since the selloff in March. That's just close-to-close delivered volatility, which doesn't include the roughly 8 basis point roundtrip move we saw intraday. Dealers did seem to be a bit offside in longer tail gamma on this move. All this helped push gamma on 10-year and 30-year tails higher by 2-5 annuals – 3m10y is currently trading just above 4.5 basis points/day. Meanwhile the uneventful Fed minutes release put pressure on gamma in shorter tails which were down 1-2 annuals on the week while gamma on 5-year tails was roughly unchanged.³

Credit market

During the first half of July, the US Credit market has come under modest pressure, as the Bloomberg Barclays Long Credit Index is 3 basis points wider on the month. Investors are becoming more concerned with persistent inflation, while the growing number of global Covid-19 cases is also

beginning to reemerge as a potential threat to the optimistic outlook. Most expect the US to be protected against the Delta virus's emergence, but a return to lockdowns cannot be ruled out for countries that have lower vaccination rates and/or sourced their vaccines from Russia and China, given the lower efficacy rates against the variant. With that said, US Credit spreads remain near historical tight, as the Bloomberg Barclays US Long Credit currently stands at 121 basis points. This is 20 basis points tighter on the year.³

Figure 9: US credit spreads



Source: Bloomberg, data as of July 13, 2021.

In terms of market technicals, Investment Grade Credit supply currently stands at \$808.5 billion on the year, 31.7% lower than last year, but significantly ahead of 2019's pace of issuance. With that said, the number of deals in the pipeline has declined significantly, as there are questions around regulatory pushback with respect to M&A. Relative to a few months ago, consolidation should be less of a concern over the next quarter for adding supply to the market. On the demand side, mutual fund flows have had a strong run in recent weeks, indicating a potential recovery to the \$5 billion-per-week inflows seen earlier this year. However, it is important to note that overnight demand from Asia has lost momentum over this period.³

Second quarter earnings season, which kicked off earlier this week, is likely to mark a peak in earnings and revenue growth. The aforementioned figures are expected to grow 60% and 19% year-over-year, respectively.³ At a sector level, cyclicals and financials are expected to produce the largest contribution to growth, a recurring theme from the first quarter of this year. Additionally, companies are showing no signs of a profit squeeze and have been reducing debt on the balance sheet by repaying short-term borrowing. We expect investors will be less concerned with the absolute growth numbers and more focused on forward-looking guidance, as well as the relative level of earnings beats.

From a macro perspective, there have been little changes to both our US and Global outlook. By the end of this year,

we expect the US to be well above the trend of pre-pandemic growth. However, the stimulus-filled increase in retail sales seems to be moderating of late, with car sales down 10% in June on a sequential basis. Most economists now expect services to drive consumption growth throughout the remainder of the year as the economy reopens. A breakdown of inflation data suggests that most of the rise in inflation is coming from goods categories that

were reliably disinflationary prior to the pandemic. As bottlenecks are resolved, the inflation impulse from this category should revert. Conversely, there are other areas such as shelter inflation that are poised to take up the slack as eviction moratoriums come to an end. Given current valuations, and the continued inflation concerns, our slightly bearish view on Investment Grade Credit remains unchanged. ■

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1. Newsweek: <https://www.newsweek.com/white-house-boasts-cookouts-are-16-cents-cheaper-this-year-internet-isnt-impressed-1606210>
2. Reuters: <https://www.reuters.com/business/finance/ny-feds-williams-standing-repo-facility-could-provide-insurance-during-2021-07-12/>
3. Bloomberg

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